Tutorial Slides

Motivation

Recommendation systems and search engines retrieve directly relevant results

Motivation

Recommendation systems and search engines retrieve directly relevant results

Our focus is different...

We want to help scientists identify and bridge potential gaps and consider new angles and ideas for research

Overall study structure

• For each **author recommendation**, you'll see their <u>papers</u>, <u>topics</u>, <u>tasks</u>, <u>methods</u>, <u>resources</u>

Overall study structure

- For each author recommendation, you'll see their papers, topics, tasks, methods, resources
 - For each of these, check off any items that are
 - Not too similar to things you've worked on or used AND
 - Potentially interesting for you to consider or to learn about

Overall study structure

- For each author recommendation, you'll see their papers, topics, tasks, methods, resources
 - For each of these, check off any items that are
 - Not too similar to things you've worked on or used AND
 - Potentially interesting for you to consider or to learn about
 - Check-all-that-apply question about author overall (0-5 checks)

☐ Explainable Knowledge Graph-based Recommendation via Deep Reinforcement Learning.

You haven't tried using **knowledge graphs as a means for generating explanations.** This could be potentially something to think about! (even if you don't care about deep reinforcement learning)

□ Explainable Knowledge Graph-based Recommendation via Deep Reinforcement Learning.



You haven't tried using **knowledge graphs as a means for generating explanations.** This could be potentially something to think about! (even if you don't care about deep reinforcement learning)

☐ Explainable Knowledge Graph-based Recommendation via Deep Reinforcement Learning.



counterfactual supervision

□counterfactual

You haven't tried using **knowledge graphs as a means for generating explanations.** This could be potentially something to think about! (even if you don't care about deep reinforcement learning)

This approach, which you haven't tried before, could potentially help obtain **counterfactual explanations** for models!

☐ Explainable Knowledge Graph-based Recommendation via Deep Reinforcement Learning.



□counterfactual





You haven't tried using **knowledge graphs as a means for generating explanations.** This could be potentially something to think about! (even if you don't care about deep reinforcement learning)

This approach, which you haven't tried before, could potentially help obtain **counterfactual explanations** for models!

☐ Explainable Knowledge Graph-based Recommendation via Deep Reinforcement Learning.



counterfactual

Intuitive user-friendly code errors





You haven't tried using **knowledge graphs as a means for generating explanations.** This could be potentially something to think about! (even if you don't care about deep reinforcement learning)

This approach, which you haven't tried before, could potentially help obtain **counterfactual explanations** for models!

You can potentially look into this area to see if ideas for **explaining code errors** can be <u>adapted</u> to **explaining models!** (It's okay and actually cool that this is a more non-obvious, creative connection!)

☐ Explainable Knowledge Graph-based Recommendation via Deep Reinforcement Learning.



counterfactual

Intuitive user-friendly code errors



☐ Introduction to Explainable AI Author position: 1 of 4 2020 You already work and focus on explainable Al! Even if you don't know this specific paper or everything about explainable Al, the title does **not** suggest any new idea or direction for you.



Author position: 1 of 4 2020



You already work and focus on explainable Al! Even if you don't know this specific paper, the title does **not** suggest any new idea or direction for you.

Introduction to Explainable Al Author position: 1 of 4 2020	
☐ DanBERT	



You already work and focus on explainable Al! Even if you don't know this specific paper, the title does **not** suggest any new idea or direction for you.

☐ Introduction to Explainable AI Author position: 1 of 4 2020



You've used DanBERT before in some of your work!

DanBERT



You already work and focus on explainable Al! Even if you don't know this specific paper, the title does not suggest any new idea or direction for you.

You've used DanBERT before in some of your work!

☐ Introduction to Explainable AI Author position: 1 of 4 2020



DanBERT



□Information retrieval

You already work and focus on explainable Al! Even if you don't know this specific paper, the title does **not** suggest any new idea or direction for you.

You've used DanBERT before in some of your work!

Information retrieval may not be your focus, but it does **not** make you think about a new angle for your own research, and is also **not** a topic you'd want to learn more about.

☐ Introduction to Explainable AI

Author position: 1 of 4 2020

DanBERT

☐Information retrieval

×





You already work and focus on explainable Al! Even if you don't know this specific paper, the title does not suggest any new idea or direction for you.

You've used DanBERT before in some of your work!

Information retrieval may not be your focus, but it does **not** make you think about a new angle for your own research, and is also **not** a topic you'd want to learn more about.





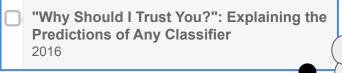












I've read a lot of their papers but not all ...

I know this paper and author very well...

You already work and focus on explainable Al! Even if Introduction to Explainable AI you don't know this specific paper, the title does **not** suggest Author position: 1 of 4 any new idea or direction for you. 2020 You've used DanBERT before in some of your work! **DanBERT** Information retrieval may not be your focus, but it does **not** Information retrieval make you think about a new angle for your own research, and is also **not** a topic you'd want to learn more about. You know a lot about the area of this author! It is **not** considered "Why Should I Trust You?": Explaining the I know this interesting just because they have some more papers you haven't read **Predictions of Any Classifier** paper and vet. 2016 author very well... I've read a lot of their papers but not all ...

 If an item discusses things that are very closely related/similar to your existing work...

- If an item discusses things that are very closely related/similar to your existing work, we consider that not useful
 - You need to be able to articulate to yourself some <u>new</u>, potentially interesting direction

- If an item discusses things that are very closely related/similar to your existing work, we consider that <u>not</u> useful
 - You need to be able to articulate to yourself some <u>new</u>, potentially interesting direction
- If an item discusses things that are <u>not</u> very closely related to your existing work...

- If an item discusses things that are very closely related/similar to your existing work, we consider that <u>not</u> useful
 - You need to be able to articulate to yourself some <u>new</u>, potentially interesting direction
- If an item discusses things that are <u>not</u> very closely related to your existing work, then
 - Think about whether or not they could potentially be applied to your work in an interesting way or would be interesting to learn more about.
 - "Can my methods be relevant for this task?"
 - "Can a method used by this author be relevant for my own tasks?"

Instructions

- You will also be asked to think aloud in evaluating 2 recommendations
 - If you find it helpful to think aloud for the other recommendations, that is perfectly fine, but we have several to go through, so please spend no more than 2 minutes on each one.

Instructions

- You will also be asked to think aloud in evaluating 2 recommendations
 - If you find it helpful to think aloud for the other recommendations, that is perfectly fine, but we have several to go through, so please spend no more than 2 minutes on each one.
- Please note that the recommendations are not ranked in any particular order, and have been chosen based on a few different approaches.

Instructions

- You will also be asked to think aloud in evaluating 2 recommendations
 - If you find it helpful to think aloud for the other recommendations, that is perfectly fine, but we have several to go through, so please spend no more than 2 minutes on each one.
- Please note that the recommendations are not ranked in any particular order, and have been chosen based on a few different approaches.
- Please evaluate each recommendation individually, not as a group.